

CLAIM AMENDMENTS

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1. (Original) A method for storing multimedia information on a medium, comprising:
receiving encoded packets of the multimedia information, a subset of the encoded packets
including timing information arriving at least every predetermined time period;
adding storage timing fields to respective corresponding encoded packets;
when a corresponding encoded packet does not include the timing information, storing a
value from a timing generator into a given storage timing field;
when the corresponding encoded packet includes the timing information, storing a value
from the timing information of the corresponding encoded packet into the given storage timing
field and resetting the value in the timing generator; and
storing the corresponding encoded packet onto the medium.

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2. (Original) The method of claim 1, wherein the received encoded packets are in an
MPEG2 format.

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3. (Original) The method of claim 1, wherein the storage timing field includes a 42 bit
timing value.

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4. (Original) The method of claim 1, wherein the predetermined time period is 100
milliseconds.

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5. (Original) The method of claim 1, wherein the resetting of the value in the timing
generator comprises setting the timing generator to the value in the timing information.

1 6. (Currently Amended) A method for retrieving multimedia information stored on a
2 medium, comprising:

3 reading a signal recorded on the medium, the signal representing encoded packets of
4 multimedia information, a respective corresponding encoded packet including a given first
5 timing information in a storage timing field;

6 comparing the given first timing information in the storage timing field to a timing value
7 from a timing generator; and

8 removing the ~~given~~ storage timing field from the respective corresponding encoded
9 packet and outputting the respective corresponding encoded packet to a decoder when the act of
10 comparing indicates that a respective transmission time has been reached.

1 7. (Currently Amended) The method of claim 6, wherein the respective transmission
2 time is a time which is a predetermined time period earlier than a time indicated by the given first
3 timing information.

1 8. (Currently Amended) The method of claim 6, wherein a first subset of the encoded
2 packets include second timing information outside of the storage timing field, and a second
3 subset of the encoded packets exclude second timing information outside of the storage timing
4 field.

1 9. (Original) The method of claim 6, wherein the encoded packet output to the decoder
2 is in an MPEG2 format.

1 10. (Original) The method of claim 6, wherein the storage timing field includes a 42 bit
2 timing value.

11. (Currently Amended) An apparatus for storing multimedia information on a medium, comprising:

a storage area for storing a received encoded packet of a plurality of encoded packets, the encoded packets including the multimedia information, and a subset of the encoded packets including timing information arriving at least every predetermined time period;

a timing field adder to add a storage timing field to the encoded packet in the storage area;

a timing generator;

a determiner to determine whether the encoded packet in the storage area includes the timing information; and

a packet storer for storing the encoded packet, including the storage timing field, onto the medium, wherein:

the timing field adder includes a timing field storer for reading and storing a value of the timing information into the storage timing field and resetting a value in the timing generator when the determiner determines that the encoded packet in the storage area includes the timing information, and the timing field storer for reading and storing the value of the timing generator into the storage timing field when the determiner determines that the encoded packet in the storage area does not include the timing information.

12. (Original) The apparatus of claim 11, wherein the received encoded packet is in an MPEG2 format.

13. (Original) The apparatus of claim 11, wherein the storage timing field includes a 42 bit timing value.

14. (Original) The apparatus of claim 11, wherein the predetermined time period is 100 milliseconds.

1 15. (Original) The apparatus of claim 11, wherein when the timing field storer resets the
2 value in the timing generator, the timing generator is reset to the value in the timing information.

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16. (Currently Amended) An apparatus for retrieving multimedia information stored on
a medium, the apparatus comprising:

3 a receiver for receiving a read signal from the medium, the signal representing encoded
4 packets of multimedia information, respective corresponding encoded packets including a given
5 first timing information in a storage timing field;

6 a timing generator;

7 a comparer for comparing the given first timing information in the storage timing field to
8 a timing value from the timing generator; and

9 a remover for removing the storage timing field from the respective corresponding
10 encoded packet and outputting the respective corresponding encoded packet to a decoder when
11 the comparer indicates that a respective transmission time has been reached.

1 17. (Currently Amended) The apparatus of claim 16, wherein the respective
2 transmission time is a time which is a predetermined time period earlier than a time indicated by
3 the given first timing information.

1 18. (Currently Amended) The apparatus of claim 16, wherein a first subset of the
2 encoded packets include second timing information outside of the storage timing field, and a
3 second subset of the encoded packets exclude second timing information outside of the storage
4 timing field.

1 19. (Currently Amended) The apparatus of claim 16, wherein the respective
2 corresponding encoded packet output to the decoder is in an MPEG2 format.

1 20. (Original) The apparatus of claim 16, wherein the storage timing field includes a 42
2 bit timing value.

21. (Original) A method for storing and retrieving multimedia information, comprising:
receiving encoded packets of the multimedia information, a subset of the encoded packets
including timing information arriving at least every predetermined time period;
adding storage timing fields to respective corresponding encoded packets;
when the corresponding encoded packet does not include the timing information, storing
a value from a receive timing generator into a given storage timing field;
when the corresponding encoded packet includes the timing information, storing a value
from the timing information of the corresponding encoded packet into the given storage timing
field and resetting the value in the receive timing generator; and
storing the corresponding encoded packet onto a medium;
reading a signal recorded on the medium, the signal representing encoded packets of
multimedia information;
comparing a value in a given storage timing field of a respective read corresponding
encoded packet to a value from a send timing generator; and
removing the given storage timing field from the read respective corresponding encoded
packet and outputting the respective corresponding encoded packet to a decoder when the act of
comparing indicates that a respective transmission time has been reached.

22. (Original) The method of claim 21, wherein the received respective corresponding
encoded packet and the outputted respective corresponding encoded packet are in an MPEG2
format.

23. (Original) The method of claim 21, wherein the storage timing fields include a 42 bit
timing value.

24. (Original) The method of claim 21, wherein the predetermined time period is 100
milliseconds.

1 25. (Original) The method of claim 21, wherein the respective transmission time is a
2 time which is a second predetermined time period earlier than a time indicated by the value in the
3 respective storage timing field.

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2 26. (Currently Amended) An apparatus for storing multimedia information to a medium
and retrieving the multimedia information from the medium, the apparatus comprising:

3 a storage area for storing a received encoded packet of a plurality of encoded packets, the
4 encoded -packets including the multimedia information, and a subset of the encoded packets
5 including timing information arriving at least every predetermined time period;

6 a timing field adder to add a storage timing field to the encoded packet in the storage
7 area;

8 a receive timing generator;

9 a determiner to determine whether the encoded packet in the storage area includes the
10 timing information;

11 a packet storer for storing the encoded packet, including the storage timing field, onto the
12 medium;

13 a receiver for receiving a read signal from the medium, the signal representing the
14 encoded packet of multimedia information, the encoded packet including the storage timing field;

15 a send timing generator;

16 a comparer for comparing the value in the storage timing field to a timing value from the
17 send timing generator; and

18 a remover for removing the storage timing field from the encoded packet and outputting
19 the encoded packet to a decoder when the comparer indicates that a respective transmission time
20 has been reached, wherein:

21 the timing field adder includes a timing field storer for reading and storing a value of the
22 timing information into the storage timing field and resetting a value in the receive timing
23 generator when the determiner determines that the encoded packet in the storage area includes
24 the timing information, and the timing field storer for reading and storing the value of the receive
25 timing generator into the storage timing field when the determiner determines that the encoded
26 packet in the storage area does not include the timing information.

1 27. (Original) The apparatus of claim 26, wherein the received encoded packet and the
2 outputted encoded packet are in an MPEG2 format.

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1 28. (Original) The apparatus of claim 26, wherein the storage timing field includes a 42
2 bit timing value.

1 29. (Original) The apparatus of claim 26, wherein the predetermined time period is 100
2 milliseconds.

1 30. (Original) The apparatus of claim 26 wherein the respective transmission time is a
2 time which is a second predetermined time period earlier than a time indicated by the value in the
3 respective storage timing field.

1 31. (Original) The apparatus of claim 26, wherein when the timing field adder resets the
2 value in the receive timing generator, the receive timing generator is reset to the value of the
3 timing information.

1 32. (Original) A machine-readable medium having recorded therein machine-readable
2 information, such that when the machine-readable information is read and executed by a
3 processor within a storage device for storing multimedia information, the processor is caused to
4 direct the storage device to:

5 receive encoded packets of the multimedia information, a subset of the encoded packets
6 to include timing information arriving at least every predetermined time period;

7 add storage timing fields to respective corresponding encoded packets;

8 when the corresponding encoded packet does not include the timing information, store a
9 value from a timing generator into a given storage timing field;

10 when the corresponding encoded packet includes the timing information, store a value
11 from the timing information of the corresponding encoded packet into the given storage timing
12 field and reset the value in the timing generator; and

13 store the encoded packet onto the medium.

1 33. (Original) The machine-readable medium of claim 32, wherein the received encoded
2 packets are in an MPEG2 format.

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2 34. (Original) The machine-readable medium of claim 32, wherein the given storage
2 timing field includes a 42 bit timing value.

1 35. (Original) The machine-readable medium of claim 32, wherein the predetermined
2 period is 100 milliseconds.

1 36. (Currently Amended) A machine-readable medium having recorded therein
2 machine-readable information, such that when the machine-readable information is read and
3 executed by a processor within a storage device for retrieving stored multimedia information, the
4 processor is caused to direct the storage device to:
5 read a signal recorded on a medium for storing the multimedia information, the signal
6 representing encoded packets of multimedia information, the encoded packets including a
7 respective first timing information in a given storage timing field;
8 compare the respective first timing information in the given storage timing field to a
9 timing value from a timing generator; and
10 remove the given storage timing field from the respective encoded packet and outputting
11 the encoded packet to a decoder when the act of comparing indicates that a respective
12 transmission time has been reached.

1 37. (Currently Amended) The machine-readable medium of claim 36, wherein the
2 respective transmission time is a time which is a predetermined time period earlier than a time
3 indicated by the respective first timing information.

1 38. (Currently Amended) The machine-readable medium of claim 36, wherein a first
2 subset of the encoded packets include second timing information outside of the given storage

3 timing field, and a second subset of the encoded packets exclude second timing information
4 outside of the storage timing field.

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1 39. (Original) The machine-readable medium of claim 36, wherein the respective
2 encoded packet output to the decoder is in an MPEG2 format.

1 40. (Original) The machine-readable medium of claim 36, wherein the given storage
2 timing field includes a 42 bit timing value.

1 41. (New) The method of claim 1, wherein the received encoded packets are transmitted
2 in a transport stream.

1 42. (New) The method of claim 1, wherein the subset of the encoded packets include a
2 program clock reference field that carries the timing information, and another subset of the
3 encoded packets exclude a program clock reference field that carries the timing information.

1 43. (New) The method of claim 1, wherein the storage timing fields are appended to the
2 beginning of the respective corresponding encoded packets.

1 44. (New) The method of claim 1, wherein the predetermined time period does not
2 exceed 100 milliseconds.

1 45. (New) The method of claim 1, wherein the multimedia information includes video
2 content.

1 46. (New) The method of claim 1, wherein the multimedia information includes audio
2 content.

1 47. (New) The method of claim 1, wherein the medium is a hard disk.

1 48. (New) The method of claim 1, wherein the medium is an optical disk.

1 49. (New) The method of claim 1, wherein the medium is a magnetic tape.

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50. (New) The method of claim 1, wherein the medium is a writable CD.

1 51. (New) The method of claim 6, wherein the encoded packets are read in a first in, first
2 out manner.

1 52. (New) The method of claim 8, wherein the first subset of the encoded packets
2 include a program clock reference field that carries the given first timing information, and the
3 second subset of the encoded packets exclude a program clock reference field that carries the
4 given first timing information.

1 53. (New) The method of claim 8, wherein the given first timing information is identical
2 to the second timing information.

1 54. (New) The method of claim 6, wherein the storage timing field is appended to the
2 beginning of the respective corresponding encoded packet.

1 55. (New) The method of claim 6, wherein the multimedia information includes video
2 content.

1 56. (New) The method of claim 6, wherein the multimedia information includes audio
2 content.

1 57. (New) The method of claim 6, wherein the medium is a hard disk.

1 58. (New) The method of claim 6, wherein the medium is an optical disk.

1 59. (New) The method of claim 6, wherein the medium is a magnetic tape.

1 60. (New) The method of claim 6, wherein the medium is a writable CD.

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61. (New) The apparatus of claim 11, wherein the received encoded packet is transmitted in a transport stream.

1 62. (New) The apparatus of claim 11, wherein the subset of the encoded packets include
2 a program clock reference field that carries the timing information, and another subset of the
3 encoded packets exclude a program clock reference field that carries the timing information.

1 63. (New) The apparatus of claim 11, wherein the storage timing field is appended to the
2 beginning of the encoded packet.

1 64. (New) The apparatus of claim 11, wherein the predetermined time period does not
2 exceed 100 milliseconds.

1 65. (New) The apparatus of claim 11, wherein the multimedia information includes
2 video content.

1 66. (New) The apparatus of claim 11, wherein the multimedia information includes
2 audio content.

1 67. (New) The apparatus of claim 11, wherein the medium is a hard disk.

1 68. (New) The apparatus of claim 11, wherein the medium is an optical disk.

1 69. (New) The apparatus of claim 11, wherein the medium is a magnetic tape.

1 70. (New) The apparatus of claim 11, wherein the medium is a writable CD.

1 71. (New) The apparatus of claim 16, wherein the encoded packets are read in a first in,
2 first out manner.

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1 72. (New) The apparatus of claim 18, wherein the first subset of the encoded packets
2 include a program clock reference field that carries the given first timing information, and the
3 second subset of the encoded packets exclude a program clock reference field that carries the
4 given first timing information.

1 73. (New) The apparatus of claim 18, wherein the given first timing information is
2 identical to the second timing information.

1 74. (New) The apparatus of claim 16, wherein the storage timing field is appended to the
2 beginning of the respective corresponding encoded packet.

1 75. (New) The apparatus of claim 16, wherein the multimedia information includes
2 video content.

1 76. (New) The apparatus of claim 16, wherein the multimedia information includes
2 audio content.

1 77. (New) The apparatus of claim 16, wherein the medium is a hard disk.

1 78. (New) The apparatus of claim 16, wherein the medium is an optical disk.

1 79. (New) The apparatus of claim 16, wherein the medium is a magnetic tape.

1 80. (New) The apparatus of claim 16, wherein the medium is a writable CD.

1 81. (New) The method of claim 21, wherein the received encoded packets are
2 transmitted in a transport stream.

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82. (New) The method of claim 21, wherein the subset of the encoded packets include a program clock reference field that carries the timing information, and another subset of the encoded packets exclude a program clock reference field that carries the timing information.

1 83. (New) The method of claim 21, wherein the storage timing fields are appended to
2 the beginning of the respective corresponding encoded packets.

1 84. (New) The method of claim 21, wherein the predetermined time period does not
2 exceed 100 milliseconds.

1 85. (New) The method of claim 21, wherein the multimedia information includes video
2 content.

1 86. (New) The method of claim 21, wherein the multimedia information includes audio
2 content.

1 87. (New) The method of claim 21, wherein the medium is a hard disk.

1 88. (New) The method of claim 21, wherein the medium is an optical disk.

1 89. (New) The method of claim 21, wherein the medium is a magnetic tape.

1 90. (New) The method of claim 21, wherein the medium is a writable CD.

1 91. (New) The apparatus of claim 26, wherein the received encoded packet is
2 transmitted in a transport stream.

1 92. (New) The apparatus of claim 26, wherein the subset of the encoded packets include
2 a program clock reference field that carries the timing information, and another subset of the
3 encoded packets exclude a program clock reference field that carries the timing information.

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93. (New) The apparatus of claim 26, wherein the storage timing field is appended to the
beginning of the encoded packet.

1 94. (New) The apparatus of claim 26, wherein the predetermined time period does not
2 exceed 100 milliseconds.

1 95. (New) The apparatus of claim 26, wherein the multimedia information includes
2 video content.

1 96. (New) The apparatus of claim 26, wherein the multimedia information includes
2 audio content.

1 97. (New) The apparatus of claim 26, wherein the medium is a hard disk.

1 98. (New) The apparatus of claim 26, wherein the medium is an optical disk.

1 99. (New) The apparatus of claim 26, wherein the medium is a magnetic tape.

1 100. (New) The apparatus of claim 26, wherein the medium is a writable CD.

1 101. (New) The machine-readable medium of claim 32, wherein the received encoded
2 packets are transmitted in a transport stream.

1 102. (New) The machine-readable medium of claim 32, wherein the subset of the
2 encoded packets include a program clock reference field that carries the timing information, and

3 another subset of the encoded packets exclude a program clock reference field that carries the
4 timing information.

1 103. (New) The machine-readable medium of claim 32, wherein the storage timing
2 fields are appended to the beginning of the respective corresponding encoded packets.

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1 104. (New) The machine-readable medium of claim 32, wherein the predetermined time
2 period does not exceed 100 milliseconds.

1 105. (New) The machine-readable medium of claim 32, wherein the multimedia
2 information includes video content.

1 106. (New) The machine-readable medium of claim 32, wherein the multimedia
2 information includes audio content.

1 107. (New) The machine-readable medium of claim 32, wherein the medium is a hard
2 disk.

1 108. (New) The machine-readable medium of claim 32, wherein the medium is an
2 optical disk.

1 109. (New) The machine-readable medium of claim 32, wherein the medium is a
2 magnetic tape.

1 110. (New) The machine-readable medium of claim 32, wherein the medium is a
2 writable CD.

1 111. (New) The machine-readable medium of claim 36, wherein the encoded packets are
2 read in a first in, first out manner.

1 112. (New) The machine-readable medium of claim 38, wherein the first subset of the
2 encoded packets include a program clock reference field that carries the given first timing
3 information, and the second subset of the encoded packets exclude a program clock reference
4 field that carries the given first timing information.

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1 113. (New) The machine-readable medium of claim 38, wherein the respective first
2 timing information is identical to the second timing information.

1 114. (New) The machine-readable medium of claim 36, wherein the given storage
2 timing field is appended to the beginning of the respective encoded packet.

1 115. (New) The machine-readable medium of claim 36, wherein the multimedia
2 information includes video content.

1 116. (New) The machine-readable medium of claim 36, wherein the multimedia
2 information includes audio content.

1 117. (New) The machine-readable medium of claim 36, wherein the medium is a hard
2 disk.

1 118. (New) The machine-readable medium of claim 36, wherein the medium is an
2 optical disk.

1 119. (New) The machine-readable medium of claim 36, wherein the medium is a
2 magnetic tape.

1 120. (New) The machine-readable medium of claim 36, wherein the medium is a
2 writable CD.